ALISOVA, S.P.; BUDBERG, P.B.; SHAKHOVA, K.I.

Crystalline structure of the $HfCr_2$ compound. Kristallografiia 9 no.1:100-101 Ja-F '64. (MIRA 17:3)

1. Institut metallurgii im. A.A.Baykova.

ACCESSION NR: AP4012442 S/0078/64/009/002/0372/0377

AUTHOR: Alisova, S. P.; Budberg, P. B.; Samsonova, N. N.; Shakhova, K. I.

TITLE: Analysis of the system Ni-Cr-W-Al

SOURCE: Zhurnal neorg. khim., v. 9, no. 2, 1964, 372-377

TOPIC TAGS: nickel alloy, alloy phase boundary, hot hardness, Ni-Cr-W-Al alloy, Ni-Cr-W-Al system, Ni-Cr alloy system, Al-W system, hot hardness, hardness reduction

ABSTRACT: Phase boundaries of Ni-Cr-W-Al alloys were determined more precisely by the x-ray method, a detailed microstructural analysis was made, and the nature of the change in the hot hardness of the alloys was studied in relation to composition and temperature. The investigation was performed with tetrahedral cross sections passing through the edge of the Ni-Cr binary system and intersecting the edge of the Al-W system with W:Al ratios of 3:1, 1:1, and 1:3. The hot hardness was analyzed at 100 deg intervals over a temperature range of 20-1100C. It was found that the alloy retains substantially its initial hardness up to 700C. Above this temperature a gradual stress relief sets in, the hardness changing

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ACCESSION NR: AP4012442

from 313 kg/mm^2 at 700C to 106 kg/mm^2 for an alloy containing 10% Cr, 15% W, 5% Al, and 70% Ni. The β-phase appears to be the cause for the beginning of stress relief at low temperatures. The presence of α_2 and γ' phases in combination with γ solid solution has no effect on hot hardness. For alloys containing 20% Cr, 10% W, 10 % Al, and 60% Ni or 30% Cr, 5% W, 5% Al, and 60% Ni with corresponding $(\gamma + \gamma' + \alpha_1)$ and $(\gamma + \alpha_1)$ structures, the change of hardness with respect to temperature is a two-step process with a constant stress-relief rate. For the three-phase and the two-phase alloys the reduction in hardness reaches 14.3% and 19% at 600C, respectively. Further increases in temperature greatly reduce alloy hardness. At about 1000C the alloys are almost completely stress relieved. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: none

SUBMITTED: 30Jan63 DATE ACQ: 26Feb64 ENCL: 00

SUB CODE: CH, ML NO REF SOV: 002 OTHER: 000

Card 2/2

ALISOVA, S.P.; BUDBERG, P.B.; SHAKHOVA, K.I.

Polymorphism of the $ZrCr_2$ compound. Kristallografiia 9 no.3: 419-421 My-Je '64. (MIRA 17:6)

1. Institut metallurgii imeni A.A. Baykova.

L 29521-65 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b) Pu-4 IJP(c) JD/JG

ACCESSION NR: AP4038715 S/0251/64/034/001/0135/0140

38
31
B

AUTHORS: Shakhova, K. I.; Budberg, P. B.

TITLE: Determining the strength of the interatomic bond in alloys of the titanium-niobium-chromium system

SOURCE: AN GruzSSR, Soobshcheniya, v. 34, no. 1, 1964, 135-140

TOPIC TAGS: titanium, niobium, chromium, crystal lattice, alloy, shear strength, elastic modulus/Elastomat device

ABSTRACT: The authors have determined the elasticity modulus and the shear modulus by the radio engineering method, using an "Elastomat" device. This permits determination with an accuracy of 1-1.5%. Specimens were prepared in an arc furnace and poured in vacuum. They were made into cylindrical rods 80-100 mm in length, 6-8 mm in diameter. It was found that $TiCr_2$ and $NbCr_2$ form a continuous series of solid solutions in the investigated temperature range (600-1000C). The crystal lattice is of the type C_{15}. It was found that transition from the single-phase region of beta alloys to the two-phase region of beta plus gamma produces a notable increase in the elastic constants. The value of elastic contents determined by the

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ACCESSION NR: AP4038715

authors permits computation of characteristic temperature and of mean-square displacement of atoms from equilibrium position in the crystal lattice. Chromium was found to strengthen greatly the interatomic bond of alloys, but niobium had a lesser effect. Results indicate that the strength of the bond in solid solutions of metals is lower than in compounds. The bond in solid solutions of metals is weakened more on heating than the bond in solid solutions of metallic compounds. Orig. art. has: 2 figures, 3 tables, and 3 formulas.

ASSOCIATION: Institut metallurgii im. A. A. Baykova, Moscow (Institute of Metallurgy)

SUBMITTED: 20Jan63 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 003 OTHER: 001

Card 2/2

L 55854-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EPF(n)-2/EWA(c)/EWP(b) Pu-4 IJP(c)
JD/JG

ACCESSION NR: AP5013115 UR/0370/65/000/002/0128/0133
669.017.1 : 620.17.

29
28
B

AUTHOR: Shakhova, K. I. (Moscow); Budberg, P. B. (Moscow)

TITLE: Some strength characteristics of the Ti-Nb-Cr alloy system

SOURCE: AN SSSR. Izvestiya. Metally, no. 2, 1965, 128-133

TOPIC TAGS: titanium alloy, chromium alloy, niobium alloy, metal physical property, metal mechanical property

ABSTRACT: Quenching hardness, hot hardness and elastic constants were investigated for four Ti-Nb alloys (4:1, 3:2, 2:3, 1:4) with increasing amounts of Cr. The authors had previously determined the constitution diagram in the investigated regions. Cr appears to be the main strengthener of β phase (titanium solid solution) while the effect of Nb is somewhat weaker. The strengthening of two and three phase regions is basically dependent on the enrichment of γ-phase (chromium solid solution) by niobium. The basic high temperature strengthener appears to be chromium. Alloys based on the γ-phase show the maximum hardness values. These alloys

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L 55854-65

ACCESSION NR: AP5013115

are only slightly weakened when the temperature is raised to 1000°C. The modulus of elasticity (tensile and shear), measured by radio frequency, changes rather sharply from one phase to another and this change verifies the phase transition regions. Alloys quenched from 1000°C have a lower elastic modulus than those quenched from 1000°C and reheated to 600°C as the body centered cubic lattice β has a lower elastic modulus than the hexagonal lattice. The largest elastic moduli were observed for solid solutions of intermetallic compounds. Orig. art. has: 4 figures, 1 table.

ASSOCIATION: none

SUBMITTED: 25Jan64 ENCL: 00 SUB CODE: MM

NO REF SOV: 012 OTHER: 002

Card 2/2

L 22342-66 EWT(m)/EWP(w)/EWA(d)/T/EWP(t) IJP(c) WJN/JD/GS

ACC NR: AT6012397 SOURCE CODE: UR/0000/65/000/000/0243/0246

AUTHOR: Kornilov, I. I. (Doctor of chemical sciences; Professor); Shakhova, K. I.; Nuss, P. A.; Klimov, B. A.; Budberg, P. B.; Chernova, T. S.; Zuykova, N. A.

ORG: none

TITLE: Some mechanical and physical properties of AT13 alloy

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 243-246

TOPIC TAGS: titanium, titanium alloy, aluminum containing alloy, zirconium containing alloy, molybdenum containing alloy, alloy mechanical property, alloy physical property /AT13 alloy

ABSTRACT: On the basis of experimental data on titanium alloys gathered at the Laboratory of the Chemistry of Metallic Alloys of the Institute of Metallurgy im. A. A. Baykov, a new, eight-component, high-strength weldable titanium alloy AT13 has been developed. The alloy liquidus and solidus temperatures were found to be 1800 and 1675C, respectively. The alloy structure consists mainly of the α-phase with a very insignificant amount of the β-phase. The α→β transformation occurs in the 1030-1050C range; no other transformation occurs in the 100—1000C range. At room temperature, AT13 alloy has a tensile strength of 127—129 kg/mm^2, a yield

Card 1/2 UDC: 669.295.001.5

L 22342-66

ACC NR: AT6012397 8

strength of 120—125 kg/mm^2, an elongation of 4—6%, a reduction of area of 30—35%, an impact toughness of 3 kg·m/cm^2, and an HV hardness of 258 kg/mm^2. In the annealed condition the alloy has an elasticity modulus of 13,600 kg/mm^2, a shear modulus of 4850 kg/mm^2, and a Poisson ratio of 0.4. The alloy softens insignificantly at 500—600C, but the tensile and yield strengths drop sharply as the test temperature increases to 700C. The creep rate at 500 and 600C is low, but sharply increases at 800C. The alloy elongation and the coefficient of thermal expansion increase uniformly with increasing temperature. The alloy resistivity was 1.73 and 1.84 ohm·mm^2/m in the annealed and in the strained condition, respectively. AT13 has the highest electric resistance of all the alloys used for heating elements, i.e., Kh20N80T3 (Nichrome) or OKh27Yu5A (alloy no. 2) and special electric heater alloys MNMts3-12 (manganin) or MNMts40-1.5 (constantan). Further research on AT13 alloy is planned. Orig. art. has: 4 figures. [MS]

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 007/ ATD PRESS: 4241

Card 2/2 lda

L 64485-65 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD/JG

ACCESSION NR: AP5021504 UR/0370/65/000/004/0168/0175 27 B

669.017.13

AUTHOR: Kornilov, I. I. (Moscow); Shakhova, K. I. (Moscow); Budberg, P. B. (Moscow)

TITLE: Phase diagram of the Ti-Nb-Cr system

SOURCE: AN SSSR. Izvestiya. Metally, no. 4, 1965, 168-175

TOPIC TAGS: alloy phase diagram, titanium alloy, niobium alloy, chromium alloy

ABSTRACT: The phase diagram for the Ti-Nb-Cr system is studied in the region bounded by the Ti-Nb side and by the cross section which passes through the metallic compounds (metallides) $TiCr_2$-$NbCr_2$. The alloys for the study were melted in an arc furnace with a nonconsumable tungsten electrode in an argon atmosphere. Every alloy was remelted six or seven times. The charge was made up of titanium iodide and TG-113 titanium; 99.27% pure pig niobium and 99.98% pure electrolytic chromium. All specimens went through homogenizing annealing in a TVV-2M furnace in an argon atmosphere at temperatures of 1300-1500°C. Specimens with a high titanium content were annealed for 60-70 hours while those rich in chromium and niobium went through a 200-240 hour annealing. Microstructural and x-ray analysis showed that these an-

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L 64485-65

ACCESSION NR: AP5021504

nealing temperatures produced an equilibrium state in the alloys. The samples were then subjected to the following vacuum heat treatment: quenching from 1000°C after holding for 100-150 hours; quenching from 800°C--holding for 350-450 hours; quenching from 600°C--holding for 500-550 hours. The compositions studied are situated along four radial sections of the concentration triangle starting from the chromium point with titanium:niobium ratios of 4:1, 3:2, 2:3, and 1:4. The phase structure of the alloys was determined by microstructural analysis, Debye x-ray phase analysis, hardness and electrical resistance measurements, and by using the optical method to determine the temperature at which the alloys begin to melt. Polythermal and isothermal sections of the system were studied for every 100° in the 1300-1900°C range, (see figs. 1-7 of the Enclosure). Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 18Mar64 ENCL: 07 SUB CODE: MM

NO REF SOV: 005 OTHER: 000

Card 2/9

L 53679-65 EWT(m)/EPF(n)-2/T/EWP(t)/EWP(b)/EWA(c) Pu-4 IJP(c) JD/WW/JG

ACCESSION NR: AP5012770 UR/0020/65/161/006/1378/1381

AUTHOR: Kornilov, I. I.; Budberg, P. B.; Shakhova, K. I.; Alisova, E. P.

TITLE: Phase diagram of the $TiCr_2$-$ZrCr_2$ system

SOURCE: AN SSSR. Doklady, v. 161, no. 6, 1965, 1378-1381

TOPIC TAGS: titanium chromium alloy, zirconium chromium alloy, alloy phase diagram, alloy composition, alloy structure, alloy crystal lattice

ABSTRACT: The phase composition and microstructure of pure $TiCr_2$ and $ZrCr_2$ compounds and nine $TiCr_2$-$ZrCr_2$ alloys containing from 10 to 90% $TiCr_2$, arc and levitation melted and homogenized at 1250—1300C for 50 hr, have been determined by thermal and x-ray-phase analysis. Thermal analysis showed that the alloy liquidus temperatures increased with increasing $ZrCr_2$ content, e.g., from 1480 to 1675C for pure $TiCr_2$ and $ZrCr_2$, respectively. An analogous increase occurred in the lattice constants. The phase diagram of the $TiCr_2$-$ZrCr_2$ system (see Fig. 1 of the Enclosure) based on the obtained data is characterized by the formation of a continuous series of solid solutions between both the low-temperature and the high-temperature modifications of $TiCr_2$ and $ZrCr_2$ compounds. The appearance of the two-phase ($\beta + \delta$) and three-phase

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L 53679-65

ACCESSION NR: AP5012770

(L+ β + δ) regions in the $TiCr_2$-rich alloys is explained by the fact that the $TiCr_2$ compound is formed in the binary Ti-Cr system in the solid state. Orig. art. has: 4 figures and 2 tables. [MS]

ASSOCIATION: Institut metallurgii im. A. A. Baykova (Institute of Metallurgy)

SUBMITTED: 09Jul64 ENCL: 01 SUB CODE: MM,SS

NO REF SOV: 006 OTHER: 006 ATD PRESS: 4011

Card 2/3

L 53679-65
ACCESSION NR: AP5012770

ENCLOSURE: 01

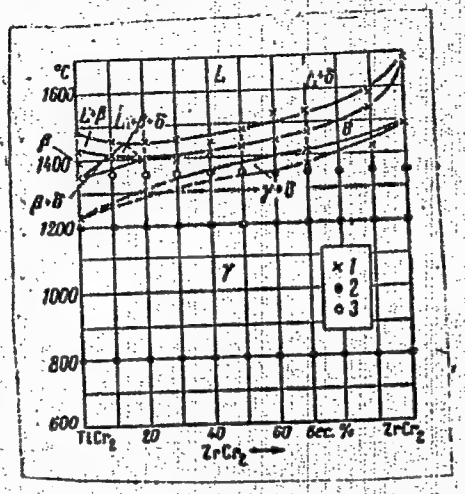

Fig. 1. Phase diagram of the $TiCr_2$-$ZrCr_2$ system

1 - Thermal analysis data; 2 - $(TiZr)Cr_2$ solid solution with a cubic lattice; 3 - $(TiZr)Cr_2$ solid solution with a hexagonal lattice.

BAB

Card 3/3

ACC NR: AT6012367 SOURCE CODE: UR/0000/65/000/000/0037/0042

AUTHORS: Budberg, P. B.; Shakhova, K. I.; Alisova, S. P.

ORG: none

TITLE: Investigation of the system $TiCr_2$ - $ZrCr_2$

SOURCE: Soveshchaniye po metallokhimii, metallovedeniyu i primeneniyu titana i yego splavov, 6th. Novyye issledovaniya titanovykh splavov (New research on titanium alloys); trudy soveshchaniya. Moscow, Izd-vo Nauka, 1965, 37-42

TOPIC TAGS: titanium, chromium, zirconium, alloy phase diagram, x ray spectroscopy, crystal lattice

ABSTRACT: An x-ray analysis of the system $TiCr_2$ - $ZrCr_2$ was carried out. The structure of the $ZrCr_2$ crystal lattice was also determined. The $TiCr_2$ - $ZrCr_2$ alloys were prepared after the method of A. A. Fogel' (Izv. AN SSSR, OTN, Metallurgiya i toplivo, 1959, No. 2, 24). The experimental results are tabulated. On the basis of x-ray analysis a phase diagram for the system was constructed (see Fig. 1). It was found that $ZrCr_2$ exhibits polymorphism. The transition temperature for the polymorphic transition was determined by the method of N. A. Nedumov (Zh. fiz. khim. 1961, 34, 184) and was found to be 1480 ± 10C. The low temperature modification of $ZrCr_2$ has the structure of $MgCu_2(C_{15})$ and the high temperature modification--$MgZn_2(C_{14})$.

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L 39783-66
ACC NR: AT6012367

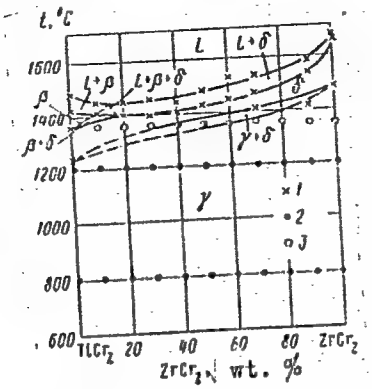

Fig. 1. Phase diagram of the system $TiCr_2$ - $ZrCr_2$.
1 - data of contactless thermal analysis; 2 - solid solution $(TiZr)Cr_2$ with cubic lattice; 3 - the same, but with hexagonal lattice.

The intermetallic compounds $TiCr_2$ and $ZrCr_2$ were found to be isomorphous and to exhibit a continuous series of solid solutions. Orig. art. has: 4 tables and 3 figures.

SUB CODE: 11/ SUBM DATE: 02Dec65/ ORIG REF: 008/ OTH REF: 006
Card 2/2

ACC NR: AP6019775 SOURCE CODE: UR/0370/66/000/003/0172/0178

AUTHOR: Kornilov, I. I. (Moscow); Shakhova, K. I. (Moscow); Budberg, P. B. (Moscow)

ORG: none

TITLE: Electrical resistance and thermal expansion of alloys of the Ti-Nb-Cr system

SOURCE: AN SSSR. Izvestiya. Metally, no. 3, 1966, 172-178

TOPIC TAGS: electric resistance, thermal expansion, titanium alloy, niobium alloy, chromium alloy, alloy phase diagram

ABSTRACT: The electrical resistance of alloys of the Ti-Nb-Cr system was investigated as a function of their chemical and phase composition at room temperature and during heating to 1100°C. The thermal expansion in the 20-1100°C range was also studied. The alloys were first quenched from 1000°C and subjected to prolonged annealing. Data on the variation of the electrical resistance with the composition were found to be in good agreement with the results of microstructural and x-ray phase analyses. The electrical resistance data for the 20-1100°C range permitted the determination of the temperature boundaries of existence of the phase regions. Transition from one phase region to another was indicated by the presence of breaks in the curves of electrical resistance vs. temperature. A study of the thermal expansion of alloys during heating made it possible to establish the temperatures of

UDC: 669.295.5'293'26

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L 39961-66

ACC NR: AP6019775

transitions in the solid state. It is shown that eutectoid-type phase transitions take place very slowly in the alloys studied. Orig. art. has: 4 figures and 2 tables.

SUB CODE: 11,20/SUBM DATE: 04Mar64/ ORIG REF: 007

Card 2/2

L 43880-65 EWT(m)/EWP(b)/T/EWP(t) IJP(c) JD/JG

ACCESSION NR: AP5006432 S/0051/65/018/003/0450/0452

AUTHOR: Grudskaya, L. Ye.; Zakharin, Ya. S.; Tsirlin, Yu. A.; Shiran, N. V.; Shakhova, K. V. 21 B

TITLE: Determination of the possibility of discrimination of particles with different ionization density from the pulse waveform in LiI(Tl), LiI(Eu), and CsI(In) crystals 27

SOURCE: Optika i spektroskopiya, v. 18, no. 3, 1965, 450-452

TOPIC TAGS: scintillation counter, Alpha scintillation, Gamma scintillation, ionization density

ABSTRACT: The waveforms of the pulses of α and γ scintillations in crystals of LiI(Tl), LiI(Eu), and CsI(In) were investigated in order to check on the possibility of separating particles having different ionization densities. The forms of the scintillation pulses were investigated by oscilloscope photography of single current pulses, using a photomultiplier RC network time constant either much shorter or much longer than the damping time of the oscillations. The first method is useful in the initial stages of damping, and the second method is better for the

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L 43880-65

ACCESSION NR: AP5006432

slower components. For the LiI(Tl) crystal the average scintillation damping time was 0.29 and 0.26 μsec for γ and α scintillations, respectively. For LiI(Eu), the damping time for both γ-rays and neutrons was the same, 0.9 μsec. Discrimination could be obtained only with CsI(In) crystals with concentrations up to 10^{-2} mol.%, where the attenuation under γ excitation was 2 μsec and that under α-particle excitation was 1 μsec. The effect of the concentration on the scintillation damping time is briefly discussed. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 13Mar64 ENCL: 00 SUB CODE: NP

NR REF SOV: 002 OTHER: 005

Card 2/2 nvb

SHAKHOVA, L., inzh. po izobretatel'stvu

Duties of the factory efficiency promoters. Neftianik 5 no.3: 7 Mr '60. (MIRA 14:9)

1. Groznenskiy neftepererabatyvayushchiy zavod. (Groznyy--Petroleum refineries)

GINEVSKIY, Genrikh [Giniewski, Henryk]; KOZ'MIN, N.V., red.; SHAKHOVA, L.L., red.; SUSHKEVICH, V.I., tekhn.red.

[Operational training of machine-tool fitters] Proizvodstvennoe obuchenie slesarei-montazhnikov po stankam. Moskva, Vses. uchebno-pedagog.izd-vo Proftekhizdat, 1960. 54 p. (MIRA 14:3)

1. Glavnyy inzh. Metodicheskogo tsentra professional'nogo obucheniya Pol'skoy Narodnoy Respubliki (for Ginevskiy).
(Machine-shop practice)

BELYAYEV, Vera Vadimovna, prepodavatel'; KUPRIYANOVA, A.T., otv. za vypusk; BARINOV, N.A., red.; SHAKHOVA, L.I., red.; DORODNOVA, L.A., tekhn. red.

[Teaching the course "General technology of metals" in technical schools] Prepodavanie kursa "Obshchaia tekhnologiia metallov" v tekhnicheskom uchilishche. Moskva, Vses.uchebno-pedagog.izd-vo, Proftekhizdat, 1960. 74 p. (MIRA 14:12)

1. Tul'skoye tekhnicheskoye uchilishche No.1 (for Belyayeva).
(Metals--Study and teaching)

YAKOVLEV, Dmitriy Filippovich; KUZNETSKIY, Gennadiy Ivanovic; BESHKIN, Grigoriy Mikhaylovich; FRENKEL', M.Z., nauchnyy red.; SHAKHOVA, L.I., red.; NESMYSLOVA, L.M., tekhn.red.

[Training of electricians for work on high-voltage power transmission lines and substations]Podgotovka elektromonterov vysokovol'tnykh linii peredachi i podstantsii. Moskva, Proftekhizdat, 1961. 90 p. (MIRA 15:10)
(Electricians--Education and training)

MOSOLOV, Konstantin Vasil'yevich; SHAKHOVA, L.I., red.; BARANOVA, N.N., tekhn. red.

[One hundred problems for a young designer and inventor] 100 zadach dlia molodogo konstruktora i izobretatelia. Moskva, Vses. uchebno-pedagog. izd-vo Proftekhizdat, 1961. 78 p. (MIRA 15:3)

(Mechanical engineering--Problems, exercises, etc.)

SARAPIN, Iosif Godelevich, kand.tekhn.nauk; SHAKHOVA, L.I., red.; NESMYSLOVA, L.M., tekhn.red.

[Training concrete workers and molders, reinforcers and construction machinery drivers by individual and group instruction] Podgotovka betonshchikov-formovshchikov, armaturshchikov i motoristov stroitel'nykh mashin metodom individual'no-brigadnogo obucheniia. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1961. 41 p. (MIRA 15:5)

1. Direktor Moskovskogo zavoda zhelezobetonnykh izdeliy No.10 (for Sarapin).
(Building trades--Study and teaching)

KARAVAYEV, Aleksey Petrovich; SHAKHOVA, L.I., red.; BARANOVA, N.N., tekhn.red.

[Carrying out laboratory and practical exercises in a farm mechanization school] Provedenie laboratorno-prakticheskikh zaniatii v uchilishche mekhanizatsii sel'skogo khoziaistva. Moskva, Vses.uchebno-pedagog.izd-vo Proftekhizdat, 1961. 30 p. (MIRA 15:4)

1. Direktor uchilishcha mekhanizatsii sel'skogo khozyaystva No.1 Krasnodarskogo kraya (for Karavayev).
(Krasnodar Territory--Agricultural machinery--Study and teaching)

BROVERMAN, Feokist Georgiyevich; MARTYNOV, Nikolay Yakovlevich; SHAKHOVA, L.I., red.; PEREDERIY, S.P., tekhn. red.

[Training electricians to service equipment in mines for automatic control, CTC, and communication] Podgotovka shakhtnykh elektroslesarei po obsluzhivaniiu sredstv avtomatizatsii, STsB i sviazi. Moskva, Proftekhizdat, 1962. 91 p. (MIRA 16:4)

1. Direktor tekhnicheskogo uchilishcha No.15 goroda Gorlovki (for Martynov). 2. Zamestitel' direktora po uchebno-proizvodstvennoy rabote technicheskogo ucnilishcha No.15 goroda Gorlovki (for Broverman).
(Mine railroads--Signaling--Centralized traffic control)
(Mine communications) (Automatic control)

MALYSHEVA, S.M.; SALTYSOVA, S.I.; SHAKHOVA, L.P.

Treatment of sterility with the mud of the Dzhalal- Abad health resort. Sov. zdrav. Kir. no.4/5:73-77 31-O'63 (MIRA 17:1)

1. Iz Kirgizskogo nauchno-issledovatel'skogo instituta kurortologii i fizioterapii (dir.-dotsent B.V. Babakhanov).

SHAKHOVA, L.V.

Straight isoclines. Trudy Sam. Gos. un. no.144:93-105 '64.
(MIRA 18:9)

KUKLES, I.S.; SHAKHOVA, L.V.

Limiting cycles of the differential equation

$$\frac{dy}{dx} = \frac{\sum_{i+j=0}^{2} b_{ij} x^i y^j}{\sum_{i+j=0}^{2} a_{ij} x^i y^j}$$

Izv. AN Uz.SSR. Ser. fiz.-mat. nauk 9 no.5:24-29 '65. (MIRA 18:11)

1. Samarkandskoye otdeleniye Instituta matematiki imeni Romanovskogo AN UzSSR. Submitted December 22, 1964.

L 25918-66 EWT(d) IJP(c)

ACC NR: AP6016676 SOURCE CODE: UR/0166/65/000/005/0024/0029

AUTHOR: Kukles, I. S.; Shakhova, L. V.

ORG: Samarkand Branch, Institute of Mathematics im. V. I. Romanovskiy AN UzSSR (Samarkandskoye otdeleniye Instituta matematiki AN UzSSR)

TITLE: Limiting cycles of the differential equation $\frac{dy}{dx} = \frac{\sum_{i+j=0}^{2} b_{ij} x^i y^j}{\sum_{i+j=0}^{2} a_{ij} x^i y^j}$

SOURCE: AN UzSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 5, 1965, 24-29

TOPIC TAGS: differential equation, mathematics

ABSTRACT: The authors investigate the differential equation

$$\frac{dy}{dx} = \frac{Y_2(x, y)}{X_2(x, y)},$$

where

$$Y_2(x, y) = b_{00} + b_{10}x + b_{01}y + b_{20}x^2 + b_{11}xy + b_{02}y^2,$$

$$X_2(x, y) = a_{00} + a_{10}x + a_{01}y + a_{20}x^2 + a_{11}xy + a_{02}y^2.$$

Equation (1) is assumed to have four simple singular points, one of which is made the coordinate origin. Consequently,

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ACC NR: AP6016676

$$a_{00} = b_{00} = 0.$$

An earlier paper by one of the authors (I.S. KUKLES, M. KHASANOVA, Matematika [Mathematics], 1964, No 6) gave a complete qualitative study of Equation (1); the present note discusses its limiting cycles. According to AN.N. BERLINSKIY (Uchenyye zapiski GGU [Scientific Notes of the Gor'kiy State University], No 3, XX, 1958), the differential equation (1) can always be presented in the form

$$\frac{dy}{dx} = \frac{(a_1x + b_1y)(c_1x + d_1y + e_1)}{(ax + by)(cx + dy + e)}.$$

The case under investigation is the one for which the isocline at infinity is represented by a pair of parallel straight lines.

Orig. art. has: 3 figures, 34 formulas, and 2 tables. [JPRS]

SUB CODE: 12 / SUBM DATE: 22Dec64 / ORIG REF: 003

Card 2/2 BLG

SHAKHOVA, M. A.

35185. Peremapryazhenie Dlya Vodoroda I Kisloroda Na Gal'vanicheskikh Osadkakh Nikelya S Seroy. V SB:50 Let Kievsk. Politekhn. In-Ta. Kiev, 1948, s. 147-68

SO: Letopis' Zhurnal'nykh Statey, Vol. 48, Moskva, 1949

VORONIN, N.N., prof. [deceased]; SHAKHOVA, M.A., inzh.

Recovery of sodium and calcium chlorates by electrolysis from residual liquor. Izv. KPI 20:20-36 '57. (MIRA 11:3)
(Sodium chlorate) (Calcium chlorate)

SHAKHOVA, M.K.; BUDAGYANTS, M.I.; SAMOKHVALOV, G.I.; PREOBRAZHENSKIY, N.A.

Synthetic investigations in the field of flavonoids. Part 4: Synthesis of 3-hydroxyflavone of flavonol. Zhur.ob.khim. 32 no.9:2832-2834 S '62. (MIRA 15:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Flavone)

SHAKHOVA, M. F.

Vitamin preparations obtained from black currants. V. M. G. Kirillov and M. F. Shakhova. *Voprosy Pitaniya* 13, No. 6, 35(1954).—Black currant fruits are freed from seeds and peels, mashed, mixed with sugar in the ratio of 1:1 or 1:2, and pasteurized in sealed-glass containers. The product obtained possesses the taste and flavor of fresh fruits. During 6 months' storage only 18% of the vitamin C content is lost while the amt. of vitamin P remains unchanged.
E. Wierbicki

SHAKHOVA, M.F.

3

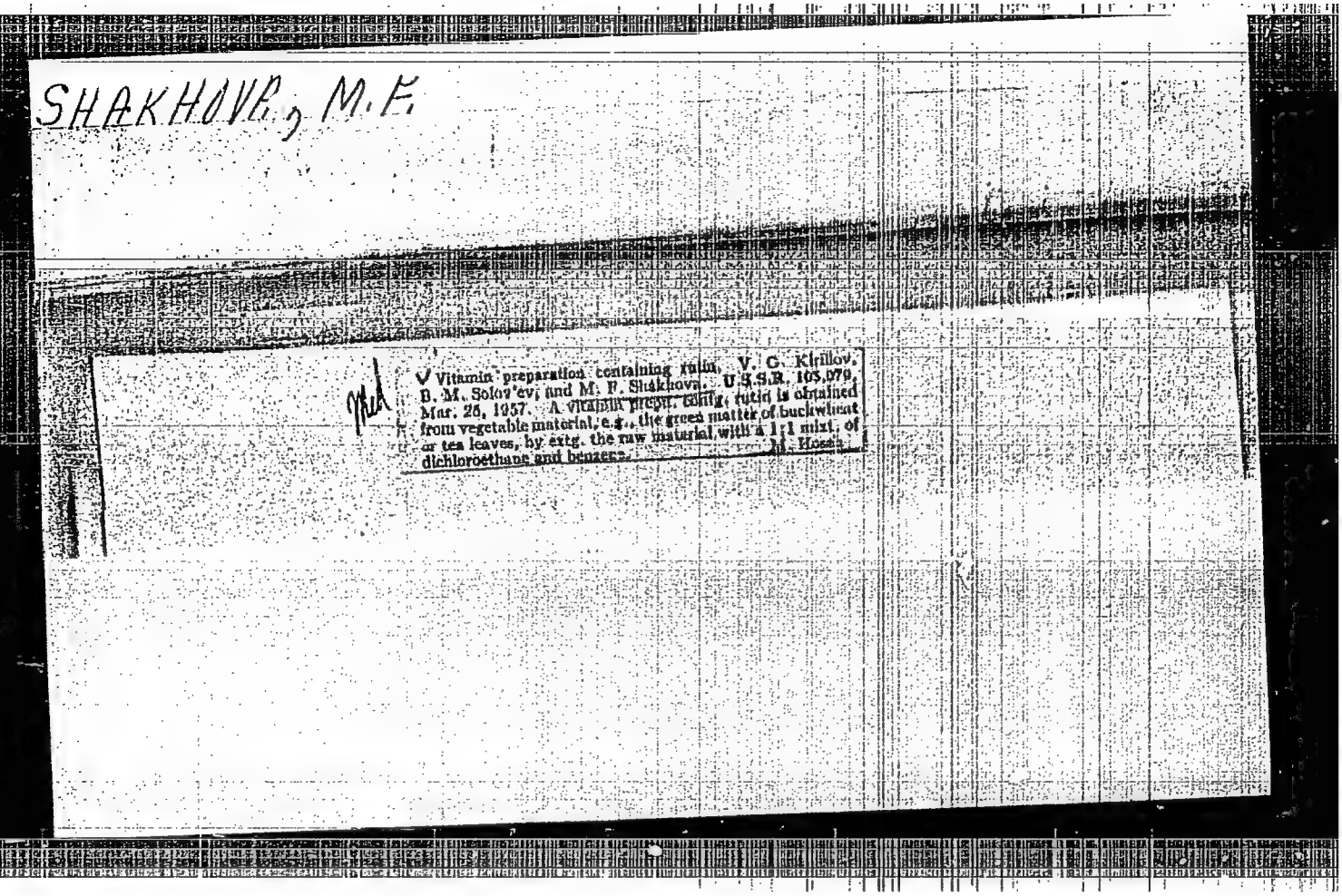
Water-soluble rutin concentrate. V. G. Kirillov-Ugryumov, E. M. Solov'ev, and M. F. Shakhova. U.S.S.R. 103,654, Aug. 25, 1956. To increase the soly. of rutin in water a mixt. of rutin, urea, and an aq. soln. of an alkali is evapd. to dryness with const. stirring. The dry concentrate is mixed with distd. water and again evapd. to dryness with stirring.

M. Hoseh

SHAKHOVA, M.F.

3

Separation of rutin. V. G. Kirillov-Ugryumov, B. M. Solov'ev, and M. F. Shakhova. U.S.S.R. 103,713, Aug. 25, 1956. Rutin is obtained by extg. the green parts of buckwheat with a H_2O-ilc. mixt. contg. 40–50% H_2O. The ext. is treated with a volatile org. solvent and, after removing the solvent, rutin is crystd, as usual. — Hoseh



SHAKHOVA, M.F.

V Vitamin preparation containing rutin. V. G. Kirillov, B. M. Solov'ev, and M. F. Shakhova. U.S.S.R. 105,979, Mar. 25, 1957. A vitamin prepn. containing rutin is obtained from vegetable material, e.g., the green matter of buckwheat or tea leaves, by extg. the raw material with a 1:1 mixt. of dichloroethane and benzene. M. Hosea

SHAKHOVA, M.F.

Technology of rutin (vitamin P) production from the green mass of buckwheat. Vit. res. i ikh isp. no.4:225-229 '59. (MIRA 14:12)

1. Vsesoyuznyy vitaminnyy institut, Moskva.
(RUTIN) (BOTANICAL DRUG INDUSTRY)

SHNAYDMAN, L.O.; SHAKHOVA, M.F.

Production of vitamin meal from lucerne. Trudy VNIVI 6:148-151 '59. (MIRA 13:7)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut. Tekhnologicheskaya laboratoriya.
(CAROTENE)

MIKHLIN, E.D.; SHAKHOVA, M.F.; LUK'YANOVA, L.V.; Prinimala uchastiye: KISELEVA, L.F., laborantka

Phytol, a preparation from peppermint wastes. Trudy VNIVI 8:57-65 '61. (MIRA 14:9)

1. Laboratoriya pererabotki rastitel'nogo syr'ya i khimiko-analiticheskaya laboratoriya Vsesoyuznogo nauchno-issledovatel'skogo vitaminnogo instituta.
(Phytol) (Peppermint)

SOV/20-123-2-27/50

5(3)
AUTHORS: Samokhvalov, G. I., Shakhova, M. K., Preobrazhenskiy, N. A.

TITLE: The Synthesis of Rutin (Sintez rutina)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 2, pp 305-307 (USSR)

ABSTRACT: Rutin, or quercetin-3-"rutinoside" (VII), is the active substance of vitamin P. The importance of rutin is great, as (besides other substances) it can decrease the permeability and fragility of the capillaries (especially with ascorbic acid). As quercetin (V) has 5 hydroxyl groups in the molecule its production from its 3-glucosides is very difficult. Besides, there are some more difficulties (Refs 1-4) so that the synthesis of rutin or other quercetin-3-disaccharides remained unknown until recently. The authors describe the synthesis of rutin from quercetin and acetobromo rutinose (see Scheme). The initial quercetin was synthesized according to reference 6, however, with the difference that the protection of the hydroxyl group in the vanillic acid was obtained by benzylation: triethylamine (Ref 7) was used as a condensing agent. The disaccharide: α-acetobromo-β-1-L-rhamnosido-6-D-glucose,

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α-acetobromo-rutinose was synthesized according to reference 8 from acetobromo-rhamnose and acetochloroglucose. The results of the paper chromatography, and the comparison of the ultraviolet absorption spectra (Fig 1) showed a complete identity of synthesized and natural rutin. As quercetin under the influence of liquid ammonia partly decomposes admixtures with an ultraviolet absorption maximum occur in the chromatograms of synthetic rutin; these admixtures characterize the quercetin decomposition products. The rutin synthesis mentioned above is the final stage of its complete synthesis. An experimental part with the usual data follows. There are 2 figures and 8 references.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut (All-Union Scientific Vitamin Research Institute)

PRESENTED: June 30, 1958, by A. N. Nesmeyanov, Academician

SAMOKHVALOV, G.I.; SHAKHOVA, M.K.; BUDAGYANTS, M.I.; VEYNBERG, A. Ya.; LUK'YANOVA, L.V.; PREOBRAZHENSKIY, N.A.

Synthetic studies of flavonoids. Part 2: Synthesis of 3- nitroflavanone. Zhur. ob. khim. 31 no.4:1147-1150 Ap '61. (MIRA 14:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminny institut.
(Flavanone)

SHAKHOVA, M.K.; SAMOKHVALOV, G.I.; PREOBRAZHENSKIY, N.A.

Synthetic studies in the flavonoids field. Part 3: Total synthesis of quercetin-3-rutinoside. Zhur.ob.khim. 32 no.2:390-396 F '62. (MIRA 15:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Rutin)

SAMOKHVALOV, G.I.; BUDAGYANTS, M.I.; SHAKHOVA, M.K.; SHOLINA, S.I.; KRUGLYAKOVA, K.Ye.; NIKOLAYEV, R.P.; ROMANOVA, A.F.

7-Alkyl derivatives of quercetin and their antioxidizing effectiveness. Izv. AN SSSR. Ser.khim. no.9:1617-1621 S '63. (MIRA 16:9)

1. Institut khimicheskoy fiziki AN SSSR i Vsesoyuznyy nauchno-issledovatel'skiy vitaminnyy institut.
(Quercetin) (Antioxidants)

SOV/156-58-3-2/52

AUTHORS: Bol'shakov, K. A., Fedorov, P. I., Shakhova, M. N.

TITLE: The Saturation Vapor Pressure of Thallium Chloride (Davleniye nasyshchennogo para khloristogo talliya)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958, Nr 3, pp. 408-412 (USSR)

ABSTRACT: The saturation vapor pressure of thallium chloride was determined according to two methods: the method of boiling points, and the method of saturated current (metod potoka nasyshcheniya). The use of these two methods made it possible to cover a great temperature range and after analysis of the results obtained to draw conclusions on the molecular state of thallium chloride. The apparatus for the determination of the vapor pressure according to the boiling point method is shown in a scheme and is discussed briefly. Three experimental series were carried out; the results obtained are given in tables and are made use of in the accompanying diagrams. An apparatus built according to the instructions of Gerasimov, Dreving and Komandin (Ref 5) was used for the determination of the saturation vapor pressure.

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The Saturation Vapor Pressure of Thallium Chloride

Table 2 gives the results calculated for TlCl and Tl_2Cl_2. A comparison of some data from publications with some of the results obtained by the authors of this paper shows that up to 460° C Tl_2Cl_2 is present, and from 620° C upward it is TlCl. Between these two temperatures there exists a mixture of these compounds. Table 3 gives the mean molecular weight of the vapor, the percentage of TlCl molecules, and the logarithm of the respective equilibrium constants of the reaction $Tl_2Cl_2 \rightleftarrows 2\ TlCl$ for four temperatures in this interval. The change of the constant of the equilibrium with the temperature was calculated and shown in a diagram. The boiling point of TlCl is at 818° C, as is shown by the observations made by the authors. There are 4 figures, 3 tables, and 6 references, 2 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii redkikh i rasseyannykh elementov Instituta tonkoy khimicheskoy tekhnologii im. M.V. Lomonosova (Chair for the Technology of Rare and Trace Elements of the Institute of Chemical Fine Technology imeni M.V. Lomonosov)

FEDOROV, P.I.; SHAKHOVA, M.N.

Pressure of cuprous bromide and chloride saturated vapors. Izv.vys.-ucheb.zav.;khim.i khim.tekh. 4 no.4:550-553 '61. (MIRA 15:1)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova, kafedra khimii i tekhnologii redkikh i rasseyannykh elementov.
(Copper bromide) (Copper chloride) (Vapor pressure)

BOL'SHAKOV, K.A.; FEDOROV, P.I.; STEPINA, S.B.; AKULKINA, L.M.; SHAKHOVA, M.N.

Preparation of anhydrous strontium and barium iodides and study of their interaction in molten state. Zhur.neorg.khim. 7 no.3:605-608 Mr '62. (MIRA 15:3)
(Strontium iodide) (Barium iodide)

SHAKHOVA, N. A., Aspirant --

"Heat Exchange in Pseudoliquid Systems." Cand Tech Sci, Moscow Inst of Chemical Machine Buildings, 28 Oct 54. (VM, 15 Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSr Higher Educational Institutions (10)

SO; Sum. No. 481, 5 May 55

MASLOVSKIY, M.F., inzh.; SHAKHOVA, N.A., kand. tekhn. nauk

Drying of suspensions and solutions in a fluidized bed of inert granular material. Khim. mash. no.6:27-29 N-D '59. (MIRA 13:3)

(Drying apparatus) (Fluidization)

06571

SOV/170-59-9-12/18

10(2)

AUTHORS: Rychkov, A.I., Shakhova, N.A.

TITLE: On the Calculation of the Rate of Pseudo-Fluidization of Mono- and Polydisperse Materials

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 9, pp 92-96 (USSR)

ABSTRACT: The authors consider the processes of pseudo-fluidization of granular materials and give formula for determining the point of transition of a monodisperse layer into the state of fluidized bed, Formula 1. Making use of the expression given by Zhavoronkov /Refs 1,2/ for the coefficient of resistance of a granular layer to gas blowing and of the critical equations proposed by Kasatkin and Akopyan /Ref 3/ and Todes and Bondareva /Ref 4/, the authors obtain criterial equations of pseudo-fluidization, Formulae 6, 7 and 8, not only for laminar processes but also for the values of Re up to 1,000. The experimental checking of these formulae on the monodisperse layers of zinc concentrate cinder, mercury ore and quartz sand showed that differences between the calculated and experimental data did not exceed 5%. The transition of a polydisperse layer into the state of fluidized bed differs essentially from that of a monodisperse layer. However, it is possible to find a monodisperse layer equivalent to the poly-

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On the Calculation of the Rate of Pseudo-Fluidization of Mono- and Polydisperse Materials

disperse one as far as the rate of pseudo-fluidization is concerned. To do this, it is sufficient to determine the value of equivalent diameter of the particles in the monodisperse layer by using Formula 14. The theoretical results were also in good agreement with experimental data.
There are: 3 graphs and 4 Soviet references.

ASSOCIATION: Institut khimicheskogo mashinostroyeniya (Institute of Chemical Machine Building), Moscow.

SHAKHOVA, N.A., kand.tekhn.nauk; RYCHKOV, A.I., doktor tekhn.nauk; DMITRENKO, Ye.V.

Drying of crystalline ammonium bicarbonate in a fluidized bed. (MIRA 15:1)
Khim.prom. no.11:783-786 N '61.
(Ammonium carbonate) (Fluidization)

ANTONOV, G.I.; BERMAN, Sh.M.; PLOSHCHENKO, Ye.A.; DRYAPIK, Ye.P.; SHAKHOV, N.A.; NAYDEK, V.L.

Gas flow distribution in regenerators of 500-ton open-hearth furnaces. Stal' 22 no.4:306-309 Ap '62. (MIRA 15:5)
(Open-hearth furnaces) (Gas flow)

S/191/63/000/001/012/017
B101/B186

AUTHORS: Shakhova, N. A., Rychkov, A. I.

TITLE: Drying of MCH(MSN) copolymer in the fluidized bed

PERIODICAL: Plasticheskiye massy, no. 1, 1963, 49-52

TEXT: MSN, a copolymer of methyl methacrylate, styrene, and acrylonitrile, m.p. 98°C, at 90% consisting of grains 0.4-1 mm in diameter, was dried in the fluidized bed of a testing apparatus. A fluidized bed already formed at an air velocity of 0.08 m/sec. The drying process was conducted at 0.195-0.324 m/sec, an air temperature of 86.7-134°C, and a fluidized bed temperature of 36-49°C. The drying capacity referred to 1 m^2 of drier surface was 31.8 kg/hr of removed moisture, or 24.4 kg/hr referred to 1 m^3 of the apparatus. 263 $kg/m^2 \cdot hr$, or 202 $kg/m^3 \cdot hr$ of dry product was obtained. Conditions recommended: air temperature 120-135°C, temperature in the fluidized bed 48-50°C, relative moisture of the outgoing air 55%, height of the fluidized bed 200-350 mm, air velocity 0.32-0.35 m/sec. In a second series of tests an additional heater was introduced in the fluidized bed, consisting of

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16 half-inch pipes, 180 mm long, which were electrically heated. The capacity increased to 100 kg of removed moisture per $m^2 \cdot hr$, 700 kg/m^2 dry product. The heat transfer coefficient was 200-400 $kcal/m^2 \cdot hr \cdot {}^{\circ}C$, the temperature of the ingoing air was 120°C, the temperature in the fluidized bed 55°C, the height of the bed 400 mm, its resistance 150 mm H_2O. The dried polymer contained 1.5% moisture. The heat supplied corresponded to the capacity of air heated to 270-260°C. The additional heater caused no stagnation in the fluidized bed. The procedure is recommended also for drying other substances sensitive to heat. There are 5 figures and 5 tables.

SHAKHOVA, N.A.; RYCHKOV, A.I.

Preparation of dry granulated nitrophoska from pulp in an apparatus with a fluidized bed. Khim.prom. no.11:839-842 N '62. (MIRA 16:2)

(Fertilizers and manures)
(Drying apparatus) (Fluidization)

SHAKHOVA, N.A.; RYCHKOV, A.I.

Drying of the copolymer MSN (methyl methacrylate, styrene, and acrylonitrile) in a fluidized bed. Plast.massy no.1:49-52 '63. (MIRA 16:2)

(Polymers--Drying)
(Fluidization)

SHAKHOVA, N.A.; RYCHKOV, A.I.

Crystallization of urea melt in a fluidized bed with the yield of a granular product. Khim.prom. no.11:856-859 '63. (MIRA 17:4)

SHAKHOVA, N.A., GORELIK, L.G.

Infrared heating and drying of granular material in a fluidized bed. Inzh.-fiz. zhur. 7 no.5:3-10 My '64. (MIRA 17:6)

1. Institut khimicheskogo mashinostroyeniya, Moskva.

SHAKHOVA, N.A.

Drying in a fluidized bed. Trudy MIKHM 26:39-49 '65 (MIRA 18:5)

AKOPYAN, L.A.; VARYGIN, N.N.; GUTAREV, V.V.; ZYKOV, D.D.; KARAVAYEV, N.M.; KONDUKOV, N.B.; LASTOVTSEV, A.M.; MAKAROV, Yu.I.; MAZUROV, D.Ya.; MARTYUSHIN, I.G.; MASLOVSKIY, M.F.; NIKOLAYEV, P.I.; PLANOVSKIY, A.N.; RYCHKOV, A.I. [deceased]; CHEKHOV, O.S.; KHVAL'NOV, A.M.; SHAKHOVA, N.A.

Theory and practice of heterogeneous processes in a fluidized bed. Trudy MIKHM 26:3-22 '64. (MIRA 18:5)

L 1959-66 EWT(m)/EPF(c)/EWP(j)/EWA(c) RM

ACCESSION NR: AP5021970 UR/0286/65/000/014/0019/0019
661.717.5 : 66.099.2

AUTHOR: Shakhova, N. A.; Rychkov, A. I. 44,55 44,55 29

TITLE: Preparative method for granulated urea. 7,44,55 Class 12, No. 172759 16 B

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 19

TOPIC TAGS: urea, spray drying, inorganic synthesis

ABSTRACT: An Author Certificate has been issued for a preparative method for granulated urea. The method involves synthesis from ammonia and carbon dioxide under pressure with subsequent distillation. To simplify the process, a 60—70% urea solution, blown by hot air, is spray dried to form a fluidized bed. [SM]

ASSOCIATION: none

SUBMITTED: 11Oct61 ENCL: 00 SUB CODE:

NO REF SOV: 000 OTHER: 000 ATD PRESS: 4088

Card 1/1

GORELIK, A.G.; SHAKHOVA, N.A.

Investigating the heat exchange in a fluidized bed under the conditions of heat supply by infrared rays. Inzh.-fiz. zh. no.6:424-426 Je '65. (MIRA 18:8)

GRAFKOVA, N.A.; BAKHTIN, L.A.; SOKOLOVSKIY, A.A.

Drying of the solutions and crystallization of the melts of ammonium nitrate in a fluidized bed. Khim. prom. 41 no.8: 594-596 Ag '65. (MIRA 18:9)

ZHUKOVA, N.P.; SHAKHOVA, N.B.(Gor'kiy)

Experience of the Gor'kii Pediatric Research Institute in practical aid to public health organizations. Sov.zdrav. 20 no.5:23-26 '61. (MIRA 14:5)

(GORKIY--PEDIATRICS)

S/020/60/134/003/031/033/XX
B004/B064

AUTHORS: Oreshko, V. F., Chernenko, L. Ye., and Shakhova, N. G.

TITLE: The Effect of Ionizing Gamma Radiation Upon the Structural and Mechanical Properties of Starch Gelatins

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 3, pp. 636 - 638

TEXT: The authors studied the effect of Co^{60} gamma radiation (dose varying from 1.10^6 to $18.2 \cdot 10^6$ r) upon the strength of starch gelatins. Potato starch with a moisture content of 16.6% was used for the experiment. After irradiation in glass ampoules, gelatins containing 12% of dry starch were produced, and the limiting shearing stress P_m was determined by means of a plastometer. Fig. 1 shows P_m as a function of time and Fig. 2 P_m as a function of the dose. The ionizing radiation first caused an increase in P_m, then a reduction growing in proportion with the increasing dose, so that at $7.1 \cdot 10^6$ r, P_m amounted to 3 g/cm^2 only, and

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at $18.2 \cdot 10^6$ r no gelatin formed any more. The course of the curve $P_m = f(D)$ (Fig.2) which passes through a maximum, is determined by the change of the number of hydroxyl groups available for the formation of hydrogen bridges. First, radiation effects depolymerization. Thus, screened off OH groups are set free, which form additional hydrogen bridges and increase P_m. Then, the OH groups are, however, split off under the formation of gaseous products. Assuming a direct proportionality between P_m and the number of H bridges, the authors write down equation (5): $P_m = P_m^o + (k\varkappa/2)(\bar{M}_o D)/(N_o \varepsilon_d) - (k\varkappa/4)(\varrho \bar{M}_o / N_o \varepsilon_d) D^2$. P_m^o is the limiting shearing stress of the non-irradiated gelatin, $\bar{M}_o$ its average molecular weight, N_o the Avogadro number, ε_d the energy necessary for the rupture of a formation, D the radiation dose, $\varkappa$ the number of screened OH groups set free in each rupture of the molecule, k and ϱ are coefficients. The function $(P_m - P_m^o)/D$, which is, also shown in Fig. 2, shows a linear course from $1 \cdot 10^6$ to $4 \cdot 10^6$ r, thus

The Effect of Ionizing Gamma Radiation Upon the Structural and Mechanical Properties of Starch Gelatins

S/020/60/134/003/031/033/XX
B004/B064

confirming the applicability of equation (5). The maximum of $P_m = f(D)$ lies at $1/\varrho = 1.85 \cdot 10^6$ r; k_M equals 20.8 on the assumption of a molecular weight of 462,000; $\varepsilon_d = 26$ ev. According to V. F. Oreshko and K. A. Korotchenko (Ref.1), Fig.2 also shows $\overline{M}$ as a function of the dose. At $4 - 5 \cdot 10^6$ r, $\overline{M}$ falls to 1/10 of its original value. The authors mention a paper by Yu. S. Zuyev. There are 2 figures and 4 references: 3 Soviet and 1 German.

ASSOCIATION: Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti (Moscow Technological Institute of the Food Industry)

PRESENTED: March 18, 1960, by P. A. Rebinder, Academician

SUBMITTED: February 4, 1960

Card 3/3

SHAKHOVA, N.G.

Šahova, N. G. The disposition of the integral curves of a differential equation of the first order in the general case. Doklady Akad. Nauk SSSR (N.S.) 68, 13–16 (1949). (Russian)

Consider the equation (1) $dy/dx = f(x, y)$, where f is merely continuous in a certain region Ω of the real (x, y)-plane. G. Peano proved [Math. Ann. 37, 182–228 (1890)] that there exist for every point M of Ω four extremal curves: upper and lower right, and upper and lower left integral curves, between which every integral curve through M must pass. Uniqueness corresponds to the coincidence of the two right and also of the two left extremal curves. M. Lavrentieff exhibited [Math. Z. 23, 197–209 (1925)] a class of functions f and related regions Ω_f, such that in each point of Ω_f the four extremal curves corresponding to (1) are distinct. The author discusses such systems and proves notably that there exists a countable basis of solutions $\{\varphi_n(x)\}$ of (1) such that through any point M of Ω there passes a solution made up of arcs of the curves $y = \varphi_n(x)$. A number of unsolved problems concerning these Lavrentieff systems are proposed by the author. *S. Lefschetz* (Princeton, N. J.).

Source: Mathematical Reviews, Vol 11 No. 3 (1950)

ORESHKO, V. F.[deceased]; GORIN, L. F.; KOROTCHENKO, K. A.; MASLOVA, G. M.; CHERNENKO, L. Ye.; SHAKHOVA, N. G.

Radiation chemistry of starch. Izv. vys. ucheb. zav.; pishch. tekh. no.5:32-37 '62. (MIRA 15:10)

1. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti, kafedra neorganicheskoy khimii.

(Starch) (Radiochemistry)

GRIDYUSHKO, V.I., kand.tekhn.nauk; FOMENKO, V.S., inzh.; SENDEROV, G.K.; inzh.; SHAKHOVA, N.M., inzh. (g.Sverdlovsk).

Gondola car design needs improvement. Zhel.dor.transp. 42 no.8:48-51 Ag '60. (MIRA 13:8)
(Railroads--Cars)

1. N. M. SHAKHOVA
2. USSR (600)
4. City Planning - Moscow
7. Leningrad District of Moscow. Gor.khoz. Mosk. 23 no. 9. 1949.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

SHAKHOVA, NINA, VASIL'YEVNA

ANUCHIN, Sergey Andreyevich; BORIK, Aleksandr Galashivich; SHAKHOVA, Nina Vasil'yevna; KUKIN, G.N., doktor tekhnicheskikh nauk, professor, retsenzent; BEKETOVA, Ye.M., redaktor; EL'KINA, E.M., tekhnicheskiy redaktor

[Design and servicing of twisting machines used in caprone manufacture] Ustroistvo i obsluzhivanie krutil'nykh mashin kapronovogo proizvodstva. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva promyshlennykh tovarov shirokogo potrebleniia SSSR, 1954. 99 p. (MLRA 7:10)
(Spinning machinery)
(Nylon)

SHAKHOVA, N.V.

Structure of twisted capron yarn. Izv.vys.ucheb.zav.; tekh. tekst.prom. no.6:3-9 '59. (MIRA 13:4)

1. Moskovskiy tekstil'nyy institut.
(Nylon) (Yarn)

USENKO, V.A.; SHAKHOVA, N.V.

Effect of the twist and structure of nylon yarns on their physical and mechanical properties. Izv.vys.ucheb.zav.; tekh.tekst.prom. no.6:10-19 '60. (MIRA 14:1)

1.Moskovskiy tekstil'nyy institut.
(Nylon) (Yarns—Testing)

ALIMARIN, I.P.; SHAKHOVA, N.V.

Gravimetric determination of scandium by means of benzeneseleninic and benzenesulfinic acids. Zhur. anal. khim. 16 no. 4: 412-416 Jl-Ag '61. (MIRA 14:7)

1. V.I. Vernadskiy Institute of Geochemistry and Analytical Chemistry, Academy of Sciences U.S.S.R., Moscow.
(Scandium--Analysis)

SHAKHOVA, N.V.

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